JOURNAL

OF THE

BRITISH SOCIETY OF DOWSERS

Vol. IV. No. 27 March, 1940

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Price to Non-Members, 1/-

BRITISH SOCIETY OF DOWSERS

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OBJECTS OF THE SOCIETY

(*a*) To encourage the study of all matters connected with the perception of radiation by the human organism with or without an instrument.

(*b*) To spread information amongst members, by means of a journal, lectures and other means, about the use of dowsing for geophysical, medical and agricultural and other purposes and for tracing objects animate or inanimate.

(*c*) To keep a register of dowsers for water, minerals, oil, and for other purposes.

RULES OF THE SOCIETY

I.—Membership.

The Society is open to all persons interested in radiation-perception. The Council has power to appoint honorary members.

II.—Subscription.

The subscription is five shillings per annum, or three guineas for a life member.

III.—Management.

The Society will be managed by a Council consisting of a President, who will act as Chairman, and five members, one of whom will act as Treasurer and Secretary.

The President and members will be replaced as necessary by the Council, appointments being confirmed at a General Meeting.

All questions regarding the publication of the journal, lectures, meetings, etc., will be settled by the Council.

Decisions of the Council will be arrived at by correspondence if necessary, the facts being recorded in the Minute Book.

Decisions will be decided by a majority vote, the Chairman having a casting vote.

The Council has power to co-opt other members for special purposes.

IV.— Accounts.

The financial year will be from July 1st to June 30th.

Accounts will be published annually within two months after the end of the financial year.

Accounts will be audited privately.

V.—General Meeting.

A General Meeting will be held annually, and other meetings when considered necessary by the Council.

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NOTICES

We much regret to record the deaths of Mr. Paul Wenz, of Nanima, Forbes, N.S.W., on August 23rd last; of Captain F. L. M. Boothby, C.B.E., R.N. (retired), on January 3rd; and of Mr. Reginald A. Smith, B.A., F.S.A., on January 18th.

* * * * *

The following *errata* occurred in the review of G. Lakhovsky's *Secret of Life* in the December number of the *Journal*:—

Page 70, line 13, for "England" read "English."
Page 71, line 14, for "wire" read "wave."
Page 72, line 20, for "emigration" read "migration."

* * * * *

The apparatus invented by Lakhovsky, necklaces, bracelets, belts, &c., can be obtained from COLYSA, 25 Rue des Marroniers, Paris (xvi.).

* * * * *

A copy has been received of the addresses delivered at the *Congrés International de Radiesthésie* held at Liége in July, and also copies of the 2nd edition of *La Radiesthésie*, by Pierre Béasse, and of *Radiesthésie Agricole*, by F. Orcel.

* * * * *

Mumetal rods can now be obtained through the Editor at the reduced price of £1 10s. An article on the use of the mumetal rod for depth finding, which was discovered by the late Major Ralph Creyke, was reprinted in the *Journal* for March, 1939.

* * * * *

Several members have asked the Editor for back numbers of the *Journal*. The Editor would be greatly obliged if members who do not require their old *Journals* would return them to him. * * * * *

Angle rods with swivel handle can be obtained from Messrs. Windley Bros., Crown Works, Chelmsford, for 6s. 6d., post free to any address in England.

* * * * *

Messrs. Devine and Co., St. Stephen's Road, Old Ford, London, E.3, supply pendulums of whale ivory, with central suspension and cavity for sample, at the price of 6s., and other dowsing instruments. They also supply whalebone for rods, cut to size.

* * * * *

The Society's badges can be obtained from the Honorary Secretary at 1s. each.

* * * * *

Communications for the Editor, and inquiries, should be sent to Colonel A. H. Bell, York House, Portugal Street, London, W.C.2.

SOME NOTES ON IMPROVED FIELD DOWSING TECHNIQUE

By J. CECIL MABY, B.Sc., A.R.C.S., F.R.A.S.

As readers of the *Journal* will have seen, the full account of a scientific investigation of Dowsing—undertaken by Mr. T. Bedford Franklin and myself, largely on behalf of the Investigation Committee of the B.S.D.—has at length been published, despite the war and a year's delay owing to further fundamental discoveries with regard to stream flow fields and the phenomena of rock refraction, spontaneous radioactivity and so forth during the past few months. That account is necessarily of a somewhat lengthy and technical nature, such as is likely to appeal more to scientifically trained observers in Physics and Physiology than to the average field dowser—especially the amateur. The present paper is, therefore, intended to provide a more readable practical guide to some of the principal issues from our book (*The Physics of the Divining Rod*, published by Messrs. G. Bell and Sons), as well as to give some description of a new form of reaction meter that can be recommended to professional dowsers for field work.

Any seeming self-advertisement in this article is purely incidental, and the reader is asked to overlook it. For the facts and discoveries set forth in our book appear to be so fundamental to a proper understanding and practice of modern dowsing (which was, owing to lack of full physical and physiological examination, previously in rather a chaotic and uncertain state) that it would appear to be our duty to make the general position as clear as we can for the sake of those dowsers or students of dowsing who may, for one reason or another, be unable to read or else digest the fuller technical account.

The Present Position of Dowsing.

Whatever the merits or physical reality of past dowsing methods may have been, it cannot be reasonably gainsaid that they were not only too multifarious, but that they also only too frequently did not yield reliable results. Nor was their scientific basis (in itself often very questionable) at all clearly understood. Indeed, the findings of many diviners—especially enthusiastic amateurs whose imagination may sometimes have been greater than their skill or knowledge—were very commonly so unsuccessful as to merit the popular and scientific criticism that they were, in fact, probably attributable mainly to guesswork, chance or autosuggestion. Nevertheless, a few more skilful and self-critical dowsers, including many of the old-fashioned country diviners, evidently worked on genuine radiesthetic lines, and hence scored a fair percentage of genuine successes, even though they were often wrong about depth or approximate yield.

But all that can, we believe, on the basis of our own recent field work, now be changed for the better. So that it should very soon be possible for the modern dowser to take his place side by side with other publicly accredited and qualified professional men, such as surveyors, architects, doctors and the like, if he will only trouble to assimilate the main physical principles of the craft, considered as a branch of radiology and engineering. Nor can he afford to do without a little elementary geological knowledge, as the best modern exponents have repeatedly urged. But that does not mean to say that it is necessary to know a lot of detailed physics or physiology, or any other "*ology*" or "*ism*," in order to become a competent field dowser, nor yet learn to use any complicated physical instrument. For we have, happily, found that, although the full interpretation of dowsing is an extremely complicated one, and the theoretical implications decidedly tiresome from the layman's point of view, yet it is still true that first-class results can be obtained by very simple indicators, plus an essential modicum of skill and patience of the kind already familiar to professional dowsers.

In other words, granted suitable sensitivity to the radiation involved, manipulative dexterity, avoidance of self-deception, and a proper apprenticeship in the use of divining-rod and reaction-meter (see below), we have not raised any gruesome scientific spectres to haunt the honest dowser's dreams! Far from it. For we have, on the contrary, been able to dispel quite a number of befogging mists and delusions that heretofore gave rise to uncomfortable errors and failures. And if, indeed, some skeletons do exist, it is, surely, better that they should be brought out of their cupboards into the full light of day. Then they can be seen afar off and carefully avoided.

Again, instead of a whole host of different, often more or less contradictory, methods and systems, it should now be possible (if our findings be accepted) to standardise dowsing practice just as other scientific procedures are standardised, by adopting a limited number of the best alternative methods and indicators, as proved by their tested efficacy and conformance to the basic principles that we have endeavoured to establish. And, in that, all personal foible or prejudice should, of course, be strictly limited; whereas, in the past, there has been far too much of both licence and disputation on all sides.

Sources of Error.

The chief sources of error appear to us to have been as follows:—

(1) Improper manipulation of rod or pendulum, owing to ignorance of the physiological and physical principles underlying dowsing reactions.

(2) Interference by autosuggestion and even telepathic suggestion, or emotional broadcasts (see below), of the true

physiological reflexes which are referable to physical rays and fields.

(3) Unforeseen variations of personal sensitivity, due to health, fatigue, meals and non-standard rod or pendulum technique.

(4) Variations (both sporadic and cyclical) of intensity of the dowsing rays and fields themselves—which are perfectly objective and of frequent occurrence.

(5) The phenomena of refraction and polarisation of the dowsing rays of Hertzian (wireless) type, that can and, indeed do, lead to serious errors of location and depthing, whatever technique is used.

(6) Misapprehension of the nature and behaviour of the special *flow* field of streams: an effect that is distinct from the ordinary reaction fields of non-moving conductors or radioactive bodies.

(7) Failure to discriminate between ordinary dowsing objectives, such as water, ore-bodies, metal objects, fissures and cavities, &c., and specially radioactive deposits—which are by no means rare.

(8) Failure to appreciate that strength of reaction is not necessarily directly proportional to magnitude or yield of a given type of dowsing objective.

But all these very serious sources of error can now, or soon will, be overcome; though, in addition to such "skeletons-in-the-cupboard," there is always that incalculable factor, personal inaccuracy or unskilfulness. And it cannot be too strongly emphasised that dowsing *is* an extremely skilled business for which only a very few rather sensitive and patient people seem to be fitted. So that, however many people may amuse themselves with amateur divination, it is likely that only occasional individuals will ever be likely to lay claim to professional ability of a high order of merit. Nor, it seems, is the physiological dowser likely to be readily deprived of his prerogative by "mere physicists and engineers" with their costly, cumbersome and complicated instruments; though purely instrumental dowsing can, in fact, also be achieved—at a price.

Dowsers need not, therefore, despair of their future prospects; but they will certainly need to "pull up their socks" if they wish to continue to obtain a public hearing, by bringing their craft up to date in scientific terms and accuracy without delay. Otherwise, radio engineers may step into their shoes, drawing higher fees into the bargain, since the public always likes elaborate apparatus.

Finally, in this section, I would like to say to the users of samples, serial numbers and coloured indicators: By all means use such additional means as an adjunct and fulfilment of ordinary "straight" field dowsing, if you have first satisfied yourselves

by critical tests (in which foreknowledge, thought transference and chance coincidence have been guarded against) that you can honestly get reliable results that way. Otherwise, forget them. So, too, with map dowsing, tracking criminals and corpses, determining sex of eggs, finding minute lost objects, &c. All that may be all very well as a drawing-room entertainment, but it should not be done in public unless you have a real flair for it—as a very few people do seem to have. For the public mistrusts occult methods and cannot afford to waste time and money over possible hocus-pocus; though there are always openings for genuine diviners, as there are for genuine mediums.

Physical Dowsing and "Psychical" Divination.

Although we have, perforce, concentrated mainly on the physical issues in dowsing, we have not at all neglected what still appear to be psychical ones. And it is our continued opinion that the two classes of phenomena must remain distinct until such time as all such "extra-sensory" achievements as those of clairvoyance, telepathy, psychometry and specific diagnosis by rod or pendulum (or any other means you choose) have at least *begun* to be understood in physical terms. Very recently, however, Mr. Franklin and I believe that we have (in the continuation of these investigations) been able to establish the physical reality and explanation of both serial reactions and the function of specific samples. These findings will be published in detail at the earliest opportunity, and will, we hope, offer substantial encouragement to exponents of such methods, which they have long and bravely defended. The main facts of ordinary field dowsing, on the other hand, now seem to be clear enough, and require no further scientific apology.

Thus we find ourselves confronted by what have been called *radiesthesia* and *intuitive perception*, respectively, with both of which dowsers and the B.S.D. are equally concerned. Very well; but let us, in future, be careful not to muddle them together. At the same time, it is evident that one and the same diviner can sometimes operate by either faculty alternatively, as Mermet, Mager, de France, Creyke, Trinder and others have shown. Many expert physical dowsers, however, deny their ability to "divine"—which includes map dowsing, use of samples and so forth. And even though one may suppose that *all* human beings innately possess the intuitive faculty, it is plain that they seldom, if ever, make use of it. Possibly they inhibit it unconsciously. Possibly they really do not possess it at all, or only in small degree. At any rate, this remains, at present, the domain of Psychical Research and Spiritualism.

Those, therefore, who are doubly gifted should first learn to distinguish the two faculties (not a difficult task really); then

they can utilise either to better advantage, and also develop for each a suitable technique. Thus, for instance, the medical dowser may use his rod or pendulum first to *locate* some seat of disease in his patient, and then turn to the more "psychic" procedures in order to *diagnose* it and prescribe suitable diet or drugs. For in medical work confusion between the two faculties is very probable, as some "electronists" and "Abrams men" have often realised. Yet the mere location of wounds, fractures or diseases appears to the writer to be a function of ordinary dowsing; not in the sense of detection of "radiations of disease," but rather, of detection of certain (apparently short-wave) wireless-type emissions from the patient's body or nervous system as a whole under emotional stress. These emissions Professor Cazzamalli, an Italian physiologist, has recorded and called "psycho-radiant reflexes," and the present writer has verified their existence by many laboratory experiments of a preliminary kind. And it appears that they are always unconscious and largely involuntary, forming a kind of simple "telepathy" between subject and operator. So, too, is their reception by the sensitive or dowser, whose neuro-muscular system reacts to them reflexly as in ordinary field dowsing, even at quite considerable distances. (Range not yet ascertained). Also the same sort of simple "telepathy" between some onlooker or distant agent and a sensitive dowser may cause confusion, or else provide true clues, in field work as well as in the consulting room. It is, therefore, better for dowsers to work alone, and for the medical diagnostician to guard himself against spurious "telepathic" suggestions from an imaginative or hypochondriacal patient.

Whether mutual sympathy is essential to success in such work is questionable, provided that the agent is of an emotional disposition, and so a good emitter, while the percipient is sensitive and suitably predisposed in an ordinary dowsing sense. But when it comes to specific diagnosis, *without* use of samples, &c., then, as in other "extra-sensory" experiments, an appropriate *orientation mentale* seems to be often essential to success.

The Physical Basis of Dowsing.

Without attempting here to discuss the detailed reasons put forward in our book (*loc. cit.*), it may be stated with almost complete assurance that the ordinary field dowser reacts directly and reflexly to two main classes of radiation, definable roughly as follows. And this he does by virtue of sometimes direct and, at others, induced ionisation of his nerves and muscles; other tissues and organs also being affected, apparently, in one way or another. And the same factors appear to operate in the more skilful sorts of specific diagnosis also,

(1) Relatively short range, scattered rays of the same general type as the X-rays and beta and gamma rays from known radio-active substances, such as radium, thorium, actinium, uranium, &c. These include high velocity, penetrating electrons as well as electromagnetic (etheric or non-corpuscular) rays, commonly ejected from matter in general and some substances in particular under cosmic ray bombardment. And since the latter is a natural and more or less continuous process, solid objects such as the ground, rocks, buildings, metals and minerals, and also liquids such as water, tend to be surrounded by a limited zone of scattered radiation capable of making a dowser react. The intensity of the former, and therewith dowsing or suitable instrumental reactions, increases as the object in question is approached from any direction, but no special field pattern is created other than an enlarged reproduction of the outlines of the radiator itself.

(2) Electromagnetic (etheric) radiation of a very penetrating short-wave Hertzian kind (wireless type), which appears to derive from the Earth's upper atmosphere or outer space, and which is also evidently controlled as to intensity by cosmic radiation and the state of the Earth's electromagnetic field. Such dowsing rays form polarised and elaborately patterned fields around all isolated conductors, such as streams, pipes, mineral veins, ore bodies, &c., and also around electric insulators embedded in a more conductive medium. These fields consist in " beat " bands of alternately weaker and stronger radiation, in some cases, and in standing waves of which the rays are polarised alternately in perpendicular directions at the " crest " and the " trough," in other instances. As a result, the dowser will obtain alternate dips and rises of a well-balanced forked rod as he crosses such zones or reaction bands. (We have called the peaks of such waves, on which the balanced rod dips, " R-bands " or " positive " zones, and the intermediate zones " N-bands," or " negative " zones).

The primary radiation is penetrating chiefly in a *vertical* direction, suffering negligible absorption by several hundred feet of earth or rock, and creates high frequency electric oscillations in subterranean as well as aerial conductors. But the secondary fields and patterns thrown out by the latter, to which dowsers react by using chosen sets of muscles as frame (or directional) wireless aerials for reception and detection of the secondary radiation, fade fairly rapidly in a *horizontal* direction. So that such fields of manifestation have a

limited extension in practice, the latter being proportional to the magnitude and electrical inductivity of the given object, and the field strength (and hence also the dowsing reactions) increasing as the vertical plane through either edge of the object is approached. The "vertical," or edge, reaction is, therefore, always the peak reaction, and hence distinguishable from the rest of the field by a practised dowser. And his physiological reactions result from third-rate high frequency oscillations set up inductively in his detector muscles, which control the rod or other indicator, *causing them to weaken in strength*. And also the turning of a sprung rod, with involuntary relaxation, comes about.

So much for the outline of the process. But, in addition, it will be necessary for a professional dowser to study the detailed forms of the electromagnetic fields, and also the special *flow* field of moving objects, such as streams of water—another electromagnetic effect, bound up with the rest, but giving a special directional stimulus to the muscles, and operating in opposite directions on the opposite sides of a stream. He will also have to select an appropriate group of muscles for the reception and detection of the radiation, and keep them suitably aligned with regard to the conductors under examination (either parallel or transverse), if he wishes to get quantitative results and be accurate in his locations and depths. For the rays are more effective in one plane than in another, and that plane often turns in magnetic orientation from moment to moment and with time of day. But all such considerations have been dealt with in our book.

Use of Forked and Angle Rods and Pendulums.

(*a*) After trying out various forms of indicator in field and laboratory for several years, the writer has come to the conclusion that the modern form of (bakelite, whalebone or steel) forked rod is still the best and most sensitive of all. But it must be properly made, light, flexible, not too long, and (for field work) having hand grips that prevent it from flipping round with weak reactions or uneven walking. For genuine and accurate dowsing reactions should always be gradual, not sudden or jerky.

Although whalebone seems to be one of the least brittle materials, it is inclined to be rather weak and to get semi-permanently deformed when bent. Spring steel wire, set in strong bakelite handle grips, is very good, if not too brittle. But the simplest, and also one of the best forms of rod can be made from pairs of ordinary bakelite knitting needles, one foot long, sizes ranging from "10" to "12," according to tension and flexibility preferred. These should be simply fastened together at the tips (fork of rod) by means of an inch of strong rubber tubing

(" pressure " type), which is quickly replaceable, and which also minimises fracture of the rods and automatically provides some tension when the handle ends are splayed apart. Another inch of rubber on either handle end, against the knobs, is a help for grip, and the needles can be obtained in many colours, if coloured detectors are desired. (The late Captain F. L. M. Boothby, B.S.D., always used such rods).

Either the classical grip of the forked rod (excellent illustrations in Captain W. H. Trinder's new book on Dowsing) or else the present writer's reversed grip (see *Physics of the Divining Rod*), which seems to give a more balanced condition of the rod for distinguishing between positive and negative reactions, will do. But in either case, the rod must be held horizontal, with forearms also horizontal, upper halves of arms vertical, elbows on hips. It is then the untwisting of the forearms that gives the positive (rod dipping) reaction, and the biceps muscles evidently play an important part, if the classical grip is used.

Sensitivity to a given field strength increases with initial tension on the muscles, but too much tension should be avoided, as fatigue will then both upset quantitative measurements and also tend to create spurious reactions of the rod. Side-stepping, using one arm only as essential detector of the field, will also be found very helpful for exact location of the edges of dowsing objectives as well as for exactly placing the depthing bands. Both the late Major R. Creyke (B.S.D.) and the present writer have used this procedure with advantage in the field.

(*b*) Pendulums we have found to give genuine physiological reactions, and they are useful indoors—especially for diagnostic procedures of the more " psychical " sort. But for field work they appear to be more clumsy and less reliable than forked rods, for various reasons cited in our book and elsewhere. The genuine physical reaction with a pendulum appears to be a straight line oscillation, rather than a gyration, when skilfully and impartially used. The direction of such oscillations (which may vary progressively, in an anti-clockwise direction, in time —sometimes suddenly and quickly, at others slowly and steadily) is an indication of the plane of polarisation of the Hertzian rays at the given station, not necessarily always parallel to the lie of the local conductor. And the amplitude of the oscillations, for a given suspension length, and after a chosen time interval from starting, is proportional to the local field strength. Anything further seems, so far, to be of dubious physical import, except that an optimum suspension length may be found for a given subject, though we cannot think that true electromagnetic syntonisation (" tuning ") can be got by varying the former. The radiation does, however, seem to vary in intensity in a succession of short bursts or jerks, which give corresponding impulses to the dowser's muscles or any other suitable detector (*e.g.*, an

ionisation counter, wireless receiver or magnetometer), so that an optimum suspension length can be chosen to harmonise with the mean (not absolutely constant) frequency of such bursts or "showers" of rays—often around 20 per minute.

Further investigation of the foregoing effects is, however, needed before final recommendations are given. And at present we are aiming to find out whether the frequency of the "showers" varies from one substance to another. It seems, however, to be controlled by generalised cosmical or geophysical factors, as yet undetermined. In any case, the pendulum is a very uncertain and crude way of investigating this phenomenon, compared with several automatic physical instruments.

(*c*) Swivelling angle rods (Budgett's design) can be used to advantage for preliminary location of streams and other good-sized conductors, as well as for detection of flow, since the rod tends to turn downstream (whether approached from one side or the other) provided that the electric field is in positive phase—that is, a balanced forked rod *dipping* over the edges of the stream. But in negative phase all reactions are reversed. (See *Physics of the Divining Rod*). However, the normal positive reaction of an angle rod is to swing *inwards* as the reaction band is traversed, where no flow field is involved.

The reaction of an angle rod, which should be held at about waist level, with forearm horizontal, and a twist on the wrist so as to bring the thumb vertically upwards on its handle, is due to an untwisting of the wrist as the muscles weaken a little. And a particularly sensitive form has been devised by G. G. Blake, Esq., M.I.E.E., that is very suitable for detecting flow and its direction, though that can also be done with a forked rod, a bowed rod, or a special "fluxometer," described below. But angle rods cannot be used at night, in a strong wind or with eyes shut. They also require some skill at balancing for reliable operation.

Quantitative Reaction Meters.

Both forked and angle rods can be adapted, though not very readily, to give quantitative readings, as in the case of Carrié's hydrometric dial and Pericas's weighted rod, or a "torsiometer" devised by the present writer. But a simpler and, probably, more accurate method is by what may be called the arm separation test, which depends upon reflex changes of tonus in the chest and shoulder muscles, and which had been recorded by Pogson and others before our investigation. In fact, Major C. A. Pogson's "motorscope" is really a form of separation and flow meter combined, and the reaction in question can be observed when a sensitive subject simply stretches out his arms horizontally before him, and then walks across a reaction band—blindfolded, if you wish. The hands will then be seen to close together to some extent, but to open apart again after passing over. The

reaction is involuntary, and no appreciable tension, other than that needed to hold up the arms, is involved.

Here, then, is an ideal dowsing reaction for the purpose of operating a delicate quantitative meter. And the simplest form of separation meter is simply a couple of tubes, about a foot long apiece, one of which slides freely and smoothly inside the other, the inside one being graduated. Such a device is held perfectly limply between the two hands, with elbows to the sides, forearms horizontal, thumbs upwards, palms of hands facing each other, so that no arm twisting is created. The zero scale reading is shown when the arms are at about natural shoulder separation and chest and back muscles completely relaxed.

The drawbacks to such a meter are, first, that when the fields are very strong, the end of the scale may be reached, and second, that the electric polarity (or phase) relationships of the dowsing fields (R and N bands) are reversed, as compared with forked rod delineations, owing to the fact that the muscles here used for reception are approximately perpendicular to those of the arms. (See frame-aerial effect noted above). Hence, a " separometer " gives its positive reaction in zones where a forked rod, if properly balanced horizontally, *rises*.

The first difficulty can be overcome either by inserting a slight counter spring tension in the instrument (the writer's first model had a dial and pointer to magnify the movements, with a choice of three spring tensions to allow for weak, medium and strong field conditions), or else by shifting the hand grips inwards, which automatically reduces the amount of the reaction to a given field.

But such procedures introduce complications of subsequent interpretation of the readings in terms of magnitude or yield. The writer therefore decided to utilise a crank and dial system, which enabled very weak, in addition to very strong fields to be measured without counter spring tension or any system of variable grips, and that quite reliably, it appears. And it was also realised that the same form of instrument could be held in another way (handles horizontal instead of vertical) so as to detect and measure the special *flow* effect of streams, in accordance with our laboratory and theoretical work.

This new instrument, which will distinguish between static and flow fields, and, given due care and practice, yield reliable quantitative readings, has been christened the " *tono-fluxometer*," and it was found that one had unintentionally arrived back at an improved version of Pogson's " motorscope." Illustrations of the use of a motorscope are given in Captain Trinder's new book (*loc. cit.*), and the two positions of the detector there shown are roughly the same as in the case of the new reaction meter. But the present writer cannot, unfortunately, on the basis of his own physical investigation of the static and flow electro-

magnetic effects that concern dowsers in the field, concur with Captain Trinder as to the technique employed or interpretations offered relative to the use of the motorscope. For when the motorscope is held as shown in Trinder's fig. 4, the hands simply tend to close together, thus turning the pointer of the crank when any positive reaction zone is crossed (as explained for separation meters), regardless of direction of the stream or conductor causing the local field. And when it is held as shown in fig. 5 of his book, the motorscope then records a fore and aft movement of the two arms relative to each other, which we find to be associated with the reversal of direction of the *flow* field when one has just crossed over a stream band—but not at any other time. Nor will the pointer always turn downwards: in certain circumstances it will turn upwards. (For fuller explanation of such static and flow field reactions see *Physics of the Divining Rod*, chaps. V and VII).

The new "tono-fluxometer"* has freely swivelling handles and an accurately graduated dial, and (for reasons that need not be given here) it roughly compensates for a certain disproportionality between natural dowsing reaction strength and actual magnitude or yield. But it is essential in using reaction meters, or even forked rod or pendulum reactions, of whatever kind, always to take into account the very real and frequent variations of field strength for any given dowsing objective that occur at all times of day and night throughout the year. *The dial or scale of the meter must, therefore, always be directly calibrated for each fresh object and occasion against the reaction strength given by some standard test object, such as a short metal rod, carried with one everywhere, before the readings are interpreted in terms of magnitude or yield.*

This new comparative method, which eliminates one very serious source of error in old-fashioned dowsing, is described in chap. VII of our book, and it has been found to give greatly improved results. Other rational and carefully tested techniques for depthing, &c., including a new "wave-length" method of depthing, are also given in the same chapter, and should be studied by professional dowsers desirous of improving the accuracy of their craft. All are based on thorough experimental and instrumental investigation of the fundamental principles of dowsing fields and reactions of the purely physical kind.

Physical Field Dowsing Outfit.

Armed with such a dual-purpose reaction meter, and having discarded all prejudice and autosuggestion, all that a modern dowser will need for sound scientific work are a couple of new-type forked rods (see above), two swivelling angle rods (one

* Robust, carefully tested instruments of this kind can be supplied by the writer, address Biophysical Laboratory, Bourton-on-Hill, Moreton-in-Marsh, Glos., with full instructions, for one guinea, net, if desired.

stiffer and heavier, the other lighter and freer), a good-sized Creyke depthing rod (also used as standard testing bar), a tape-measure, bundle of pegs and tickets, a notebook and pencil. Very high-class work can be done on scientific radio-prospection lines with such simple tools and the requisite sensitivity, skill and experience, without resort to any more complex, clumsy or costly apparatus, as we have repeatedly confirmed in practice.

Nor is it essential to have Mumetal for a Creyke rod, we find. It is the length and diameter, rather, of any good electrical conductor that matter principally, and the rod should be not less than four feet long and at least half-inch diameter, or, better, a thick-walled metal tube of, say, one inch diameter, with spiked lower end, and some sort of small crook or handle at the other. A tube or rod of aluminium alloy should do well, as it will be lighter and also more readily visible when laid down on the ground. But specific properties of metals need further enquiry.

A regulable pendulum, samples or coloured detectors are extras that can, of course, be carried as well, if desired, for specific diagnosis and " psychical " divination, but they should only be used secondarily to the fundamental physical technique, such as we have endeavoured to explain on rational scientific lines in our book. But, as was mentioned above, it is hoped very shortly to be able to include serial numbers and samples in the recognised physical class also, with an improved manipulation. In conclusion, it is very much hoped that other skilled dowsers will see their way to giving these new ideas full consideration, in order to standardise and improve dowsing technique as soon and as far as possible, both for their own sake and that of their clients.

Note by the Editor.

The following two letters, selected from several others, are published because they illustrate the excellent results which have been obtained by the methods advocated in *The Physics of the Divining Rod*. Besides the accurate location and forecast of depth, points to be noticed in the first letter are the correct forecast of changes of strata and of the final yield. The other letters, referring to locations in various geological formations, provide similar testimony to the value of these methods.

BANK BUILDING,
THE ADMIRALTY,
WHITEHALL,
LONDON.
January 20th, 1940.

BORING FOR WATER AT HILLSIDE.

DEAR MABY,

This is to confirm in writing the main conditions and results in connection with my recent boring for water in the field above

my old house (contractors, Messrs. Lainchbury and Sons, of Kingham), which eventually produced a good supply of clear water for my adjoining farm, though only after many vicissitudes.

The site was originally located by Mr. X, who had traced the stream back from a previous bore (yielding some 1,300 to 1,500 gallons per hour lower down the hill near our house ; and, though I was satisfied about the location, I was uncertain regarding the depth of the water there, which I took to be considerably more than X had estimated. And it was in that connection that you assisted us, enabling me to have faith in the boring, and to continue to the requisite depth.

By means of your improved radio-prospection methods you were able to tell me within an hour that it would be a deep boring of at least 130 to 140 feet, with various intermediate changes of strata, the proportional depths of which you specified. You also warned me that, if thick clay or water-bearing strata were encountered, as seemed likely, a considerable percentage would have to be added to your initial measurements, according to the thicknesses of the former. And that was what did, in fact, happen. For, although the first two changes of strata (to clay, and then, later, to wet sand) were correct to the nearest feet, after that they were all dislocated in proportion. But you found it possible to forecast the true depth of each successive change of rock, &c., as the bore penetrated the one immediately over it, including, eventually, the stream band itself, at 204-207 feet.

On the way down we struck water at about 52 feet, and thought we had reached the stream. But you were, apparently, correct in insisting that it must only be a generalised water table of limited yield. For a pumping test showed it to be insufficient ; so that we lined the bore to below that level to cut it out, and continued to your specified depth. You also told us that the bore was not quite central on the stream, which was, you said, approximately three feet wide, with a good flow and probable yield over 1,000 g.p.h., if we could tap it all, though you anticipated that the bore would probably not get more than about one-quarter to one-third of it, as it was not an open fissure stream. Probable yield was, therefore, likely to be around 300 to 400 g.p.h. And that was what we eventually got at 207 feet, when we hit a hard stone bed after wet sand.

You told me, at one stage, that theoretical calculations indicated 196 feet as being the likely depth, though your field value was 204 to 207 feet. And it is true that water-bearing sand began at about 192 feet, though you maintained that the actual flow was at the lower depth, at the bottom of the sand bed. And so it turned out to be, judging by the sudden increase of water, which then rose several feet in the bore under slight pressure.

Rough surveying of the ground, after you have made your first sets of measurements, also suggested that, if the water-bearing stratum ran practically horizontal (as you said it probably did, judging from the flow values you got, and general local geology), then the depth of the water at the present bore should be about 203 feet. That is to say, 119 feet for the depth of the previous bore, down the hill, plus about 85 feet for the fall of land. So that the dowsing and surveying estimates were in very close agreement. This urged me to persist with the bore, despite some misgiving. And it was your insistence on the last few feet, after hitting the wet sand, that ultimately brought in the main supply which pumping tests over several days showed to give 300 to 400 g.p.h., and, in the end, the supply seemed to be on the increase.

Unfortunately, the wet sand collapsed on the pump and broke it off, and much clay also fell in or got pushed and washed down to the bottom during the lining process, so that the stream got badly blocked for some time. And no amount of cleaning and pumping released it again until we blew a large charge of dynamite, when it returned to about its original value, after cleaning out. So that a windmill has now been erected and the water piped to the farm, which was previously rather short of water in dry weather, being on a high hill-top with only a shallower well—possibly to the first water-bearing stratum that we met with the new bore.

Despite the failure of the supply, and our fears that it might have become diverted or run dry, you insisted that it was still unchanged, and that the bore must simply have got silted up at the bottom with the fallen clay. This idea was confirmed by the result of the depth charge, blown at 204 feet as you recommended.

Yours sincerely,

(Signed) E. F. WHARTON, COMMANDER, R.N.

IDBURY,
KINGHAM,
OXON.
January 24th, 1940.

DEAR MR. MABY,

I should like to thank you for the exceptional help you gave me over finding a water supply for my new cottage.

I had had great expense and disappointment before you started work, as the local dowser was completely " out " in his diagnosis. Perhaps what was most striking in your work (to an outsider) was the complete contrast between your precise methods—checking and re-checking, and the rapid, vague method of the local dowser. Like so many country dowsers he could make the hazel bend in the vicinity of water, but nothing more.

To anyone who has suffered from digging a well in the wrong place, your confident but meticulous way of working would be a pleasure and education.

As a result of your diagnosis, our builder had ample supplies all through the 1939 drought—summer and autumn—a real test. Now we are in the cottage, and the streams provide an excellent house supply and pump, as you said they would, easily to roof storage tank.

If there is anything I can say or do to be of any use, please let me know. Thanking you again for your prompt and able help.

Yours sincerely,

MERVYN LAGDEN.

DOWSING

HOW FAR IS IT AN EFFECT OF THE MIND ?

By G. C. SHERRIN.

There are so many learned dowsers who endeavour to explain the phenomenon of dowsing by intricate and even incomprehensible statements that it is a relief to read the article in the December *Journal* by Colonel Fenwick entitled the Sixth Sense. In it he sees the necessity for coming back to simplicity. His views are so much those which I have attempted to express in the past that I am encouraged to offer them again, as I think they will amplify a very sane aspect of dowsing.

It will probably be agreed that true dowsing cannot be separated from the dowser, and therefore if any advance is to be made in the study of dowsing the dowser must also be studied.

By studying the dowser I mean trying to find something that is common to all dowsers—some thread of common truth running through their writings—some idea which is capable of embracing or explaining all and even the most extravagant of their claims.

We are amused when a dowser says he cannot detect water when he is wearing indiarubber boots, because, as he asserts, he is thereby insulated from the ground ; but when another declares that he can detect radio signals if he uses a divining rod which has been painted red, we, for some inexplicable reason, suspend our judgments.

In all probability the two statements are equally sane. If the two dowsers are convinced that their ideas are right the results they obtain will be controlled by their mental attitude.

Not long ago I handed a forked hazel twig to a dowser, asking him to test a certain piece of ground for water. Having looked at the twig, he declared it perfectly useless, because I had stripped the bark off the handles ; and I have no doubt but that the

twig would have been useless to him had I not succeeded in convincing him that the bark could not really make the slightest difference, provided perhaps that the absence of it had not allowed the twig to become dry and brittle, which was not the case. When convinced of my view the twig worked perfectly with him.

If we consider the case of water divining, which I believe has afforded us the greatest amount of scientific data up to the present upon which to base the art of dowsing, we are confronted with several aspects of the phenomenon which I do not think have received sufficient attention.

When a dowser has located a spring of water he drives a peg into the ground to mark the exact spot at which a boring or well is to be sunk.

This implies a most important factor in water divining. It implies that the dowser has not only discovered the presence of water but that he has found also the spot which is vertically above it. Sir W. Barrett's book, *The Divining Rod*, relates several cases where the striking of water has depended very much upon the dowser's vertical point being strictly adhered to.

How is it that the dowser located water vertically below his rod ?

Certainly the vertical is the shortest line between him and the spring, but if the spring is, say, 200ft. below the surface the difference in length between the vertical line and other lines running at a slight angle is not very great, and should the ground be uneven the vertical line might not even be the shortest.

Perhaps the dowser finds the vertical line through the medium of the force of gravitation—whatever that may be ; we hope this is not so, if only to avoid the impossibility of explaining other dowsing phenomena by the same hypothesis.

The obvious solution to the dowser locating the vertical point above a spring is to be found by considering his mental attitude.

He finds water and not minerals or flints or archæological remains or cavities in the ground for the simple reason that it is water that he is looking for and not these other things.

In a similar way he finds the vertical point above the water because his mental conception of water includes the conception of a vertical well or boring by which the water must be reached. The vertical boring is part of his conception of the spring, without which the spring is useless.

We then come to the question of measuring the depth of a spring.

The vertical line which I have just referred to is a very simple conception—the carpenter's plumb-line, the walls of any building, the path of a body falling from rest, etc.—and how quickly one notices the want of the vertical when it is absent from such things as a flagstaff or a tower.

But when we try to form a mental conception of depth—distance downwards—how very difficult it becomes. Before we can even think of depth we must be able to estimate distance apart from any particular direction.

If you wish to know how much conception you have of distance, you have only to make the simplest of experiments. Try to lay out a distance of 100 yards in open country by eye only.

When you have tried it, you will see how absurd it is to imagine you can depth a spring below ground which you cannot see when you have only the vaguest idea of the distance between two points above ground which you can see.

No wonder some system is sought for to help the dowser out of this difficulty.

Some methods which have been suggested seem to employ geometry and mathematics, but geometry and mathematics were not used to discover the spring in the first instance, nor yet to find the vertical line leading to it. Why, therefore, employ them now to find the depth?

All that is wanted is some scheme, such as the point depth method, by which the dowser can form an accurate mental picture of distance. When the correct distance for the depth is presented to the dowser, he will at once associate it with the depth of the spring by the same operation by which he found the spring in the first instance, namely, the art of dowsing.

In practice, a peg may be fixed in the ground over the spring and a distance measured out from it which is increased until a reaction in the rod says that it is long enough. The distance so measured is the depth of the spring. The measured distance acts as a sample length.

To sum up, therefore, the dowser easily finds his spring of water at the vertical point above it because his mental conception of the spring is that it shall be reached by a vertical bore or well, and the conception of the vertical is an easy one.

The idea of depth is not so easy without long practice, because no unit of length can be accurately carried in the mind.

As regards the volume of a spring, the same difficulties occur as with depth. Turn on the water tap in the scullery and estimate, if you can, the flow in gallons per hour. When you can do this accurately with a flow of water which you can see, you may have some chance of doing it accurately with a flow of water which you cannot see.

Let us pursue our question further. A year or two ago I was invited by a rather eminent dowser to hide his gold watch in some part of his room while he waited outside behind closed doors. He would find it for me with his whalebone rod as soon as I called him in.

His procedure was the usual one for taking bearings. First he swept his rod slowly from end to end of the room, waiting for

a reaction to give him a line of direction, which by the way, it did with no uncertainty.

He then took up a new position and swept the rod slowly across the room. Again he got another line of direction which cut the first. The point of intersection of the two lines lay over a copy of the *Morning Post*, beneath which ticked his gold watch.

But it was not really quite so simple as all that. Half-way through the operation he stopped, drew out his gold watch chain and twisted it round his hand. He explained that he was trying a sample.

I did not enquire why he thought a sample might be helpful.

Possibly the gold emanations from the chain would unite in some mystic way with the electro-magnetic radiation of the gold watch, ticking under the *Morning Post*, and so intensify the final nervous reaction hoped for in the whalebone rod.

Or was it that the sight of a piece of gold would strengthen his mental conception of gold for which he was dowsing ?

In any case, the result was a good example of clever dowsing.

I had the opportunity on another occasion to test a dowser who could generally find hidden objects with great ease.

A bracelet was hidden under one of several cushions, but owing, let us say, to unsuitable circumstances, he failed to find it. At last I showed him where it was. He said " Replace the cushion, and let me try again." I replaced the cushion, but by sleight of hand removed the bracelet. He then passed his rod over the cushion again, and, as I expected, received a strong reaction.

Assuming that this reaction was involuntary—which I had no reason to doubt—the only way of accounting for it was by a mental operation.

There is not, of course, anything new in this kind of experiment. I quote it only as an example.

I believe there is a good deal of support among dowsers for the theory that the mind plays an important part in dowsing, but they do not seem to be prepared to give it its full significance.

The mental theory, it is true, does not explain away the phenomenon of dowsing, but it is a cloak which covers the whole subject wonderfully well ; it fits all aspects of it ; it filters out a strain of truth from even the most extravagant claims, and it does not lead to a mass of impenetrable difficulty. It makes probable, for instance, the diagnosis of diseases as practised by many medical dowsers ; in fact, it is difficult to see why a disease of the body should not be just as suitable an objective for the dowser as water or gold—to take the most popular examples. The limit in this case, as in others, is, I suggest, determined by the power of the dowser to form a vivid mental conception.

It is hardly to be expected that a person who has had no medical training will be able to form a mental conception of a disease about which he knows nothing.

Again, since we have very little data concerning the distance at which a dowser can work, we have no reason to deny the possibility of dowsing from a map.

We read, too, of dowsers who are able to detect the North pole from the South pole of a bar magnet. There seems nothing unreasonable about this, especially if the dowser is imbued with the idea that magnetism is an important agent in dowsing. Personally, it is repugnant to me to expect a reaction to the poles of a magnet mainly because I feel that in any position of the magnet one pole is practically as close to me as the other, and I have not yet found any reason to believe in magnetic influence in dowsing; in fact, I am inclined to imagine that a simple experiment might be made to prove that a walking stick or a paper knife could be substituted for the magnet with equally marvellous results.

EXPERIENCES OF AN AMATEUR

By "KATANI"

Being asked to assist with a contribution to the *Journal*, I must confess that I approach the task with misgiving, for two reasons: Firstly, following the excellent articles which have appeared in the *Journal*, what interest or instruction can my opinions, or the recounting of my few experiences, have for other members? I can show no scientific reasons for the dowsing power, or give any hints of value; and secondly, in this dowsing business I feel a bit of a humbug, for although most keen, much to my disappointment I cannot honestly claim to possess dowse's powers. There are days when I can go ahead and tackle any problem with full assurance, and again there are times when I cannot believe any reaction I receive is genuine, and there are times, too numerous for my liking, when I can get no response whatsoever and all efforts are void. Lunar action has been considered as a possible cause, but so far I have not been able to make sufficiently extended observations to either deny or confirm it. Yet, on the other hand, it may be just periods of mental and muscular laziness.

Unfortunately, it was not till later years of life that I came into actual contact with dowsing (I think it should be started in youth before the character begins to form) and not until I joined the Society did I become aware of the vast field it covered, and the possibilities.

As a boy I remember seeing a woodcut of a man using a "twig," and I also read about the siting of a bore hole; years later, when on the goldfields of Southern Rhodesia, I came across the owner of a small gold mine who prospected with the rod. He

had the rudimentary ideas all right, but he seemed to have little success with it. After watching him, I tried for myself. No luck; not a flicker of the stick. Daily I went about trying, but it was nearly three weeks later before I felt any reaction; in fact, by perseverance I pushed myself into dowsing.

Most of the "finds" we made were far too deep down for either of us, with bank balances at almost nil, to even consider attempting to prove. Occasionally we met something within easy reach by trenching or easy digging; but we were always disappointed, and I think we must have found some radio-active pebbles very similar to those mentioned by Captain Trinder in his recent book and also in articles to the *Journal*.

Dowsing for gold does not appear to be a success, judging by my own experience, and also by many of the remarks made by contributors to the *Journal*. Two years ago, touring through Wales, I visited several old gold workings. Results were no better, and I am left with the conviction that, as this metal is not a real necessity to man, but rather the reverse, as it brings out all his worst instincts, we cannot expect to be successful in our search. In water, we have an essential of human existence, and so we may expect that the Creator of all things, among His blessings, would equip humanity with the power of locating and bringing it to his service. Hence there have been and are many highly successful water diviners.

There are wonderful laws covering all these things which we do not as yet appear to be wise enough to understand, or make use of, for our spiritual wellbeing, as well as our material welfare.

We are told that we are "fearfully and wonderfully made," and that is very true of the dowsers; each seems to have his own methods and reactions. No doubt they all attain the same result in the end, but nevertheless we do differ. Consequently, I can but relate how apparatus and methods affect myself.

Although rods of all sizes and materials have been tried, the only satisfactory one is a forked twig, arms about 15 inches long, preferably dry; but care must be taken in use, otherwise the wood will snap; the genus of wood is immaterial provided it is of even balance. Angle rods have been tried, but without success. Serial numbers are so erratic as to be entirely useless to me, and can be ruled out; the use of colours has not been experimented with long enough for me to be assured of practical service.

With samples I find that the written word is most useful, and, in fact, gives better results than a material sample. For this purpose I use plain post cards with the name of article, or, metal, drug or bodily organ written with a packing case pen (a kind of felt brush with a reservoir for the ink). I have used maps and also a medical student's manikin (a kind of map of the human body organs made of cardboard, the various organs being made

to lift and open up) with success; needless to say, I would not consider this branch of dowsing without the co-operation of a medical practitioner.

Pendulums. I have used anything handy tied to a bit of string, for at first I was of the opinion that shape and material were of no importance; now, I am inclined to change my views; I cannot, as yet, suggest any reason for this, but hope further experiment will yield one. Dowsing on maps, even rough sketches made by myself from memory, have shown very encouraging results: would that I had more time to spare to follow this up.

Scientific reasons for all this I make no attempt to offer, but I am convinced that dowsing is a faculty which once in the dim past, before man became so obsessed with materialism, was the birthright of all humanity. Let us hope that the day is not far distant when we shall come to our senses and recover these lost but precious gifts of God.

Now for a few experiences.

(1) One day a document of some importance disappeared from the office of a certain firm. To amuse myself, I attempted to locate it. Standing at the point where last seen, the pendulum indicated a direction due west. Those parts of the building lying to the west were carefully searched by the office staff, without success. A suggestion that the document might have been unintentionally thrown on to the rubbish heap, with other papers, lead me to try the heap with the pendulum; result, nil. Returning to the first point, a map of the locality was obtained. Prospecting with the pendulum indicated a point about two miles due west. On investigation this proved to be a private house, the tenants of which could not possibly have had any connection or access to the office. The search was then abandoned. The following day the missing document was returned, having been picked up, in error, among other papers by a visiting traveller. This traveller, when asked if he was living in the district, replied "No," but added that while covering the area had taken a room locally. This turned out to be in the house indicated by the pendulum.

(2) Introduced to a man bent double with a spinal complaint of several years' standing, and becoming each year steadily worse in spite of all attention, cause unknown, I was most anxious to investigate his home, but did not care to make the suggestion, the patient being very touchy on account of his affliction. However, on returning home, I drew a plan from memory, and trying the pendulum over it, located a stream of water under the property, this stream, to my surprise, flowing in a direction contrary to my expectation. A few days later, at dusk, I took a fellow member of the Society to the house, and, without giving any hint of my finding, asked him to try his rod on the roads outside. Arriving at the spot where according to my plan the

stream would be found, he called out " There is something here," and over went his rod. When asked to state the direction of the flow, in confirming my finding he expressed his surprise, as it was contrary to what he had expected.

Later, it was found that both the bed and seat in the office (the cripple's business being carried on at his home) were situated over the stream. Nothing could be done in this case, as the cripple, being of a most obstinate and irritable nature, treated any suggestion that he move his bed and office with contempt, and refused.

(3) Recently I was asked to examine a new house, the owner of which, since taking up residence, three years previously, had begun to suffer with sciatica so severely as to seriously interfere with his means of livelihood. I found his bed and favourite fireside seat were both over a stream. It was suggested that he change his bedroom, and also place a sheet of Uralite board below the carpet under his chair. I am glad to state that this case shows vast improvement.

This demonstrates the importance of examining a house before buying, or taking up residence, and also the need to investigate all sites before commencing to build.

Re the Uralite board. This must not be considered to give complete protection; the effect is only to divert the harmful ray, not, unfortunately, to neutralise it, as it can be noted with the rod all round the edge of the board. The only real way to safety is for the patient to leave the site of ray activity entirely, if possible.

(4) Asked by a doctor to demonstrate, I was given a letter from a patient, and holding this in the pendulum hand (by the way, the left with me, positive or male gyration anti-clock, negative or female clock-wise) over my student's manikin, I was able to declare the patient to be a woman, and to be suffering from acute sciatica of the left leg and also a derangement of the spine, possibly the cause of the former. This was correct.

In another test, using a letter from the patient as witness and this time using written samples, it was decided that the liver and pancreas were at fault, with poisoning of sorts, aluminium indicated, weakening the system generally. This finding was entirely in agreement with the results of a personal examination of the patient by the doctor.

Each day the veil is lifted a little higher for us to peep beneath and see the new world that must come, and we must all pass our thanks to our President, Colonel Bell, for his valuable work in bringing the dowsers together, and especially for his energy in producing the *Journal*. Without it, there would be no record of much that will help, when fully tabulated, to raise the dowser's art from a position of contempt as a primitive superstition to the high and important place it must take in the future development of mankind.

EARTH RAYS

By A.H.B.

Much evidence has been collected in the past by such investigators as Baron von Pohl, Maby, Jemma, the late Colonel Beichl, Dr. Jenny, Dr. Dobler, H. Winzer and W. Melzer to show that at certain well-defined spots there is an emanation of some kind, which, rising vertically from the ground, has an adverse effect on the health of human beings whose usual places of repose or work lie in its path.

Hitherto, few, if any, investigations appear to have been carried out by the aid of ordinary physical instruments to ascertain the exact nature, origin and periodicity of this emanation, but now we have the result of the careful experiments made by M. Pierre Cody, of Le Havre, *Ingéneur des Arts et Manufactures*, embodied in a book entitled *Étude Expérimentale de l'Ionisation de l'Air par une certaine Radioactivité du Sol ; son Influence sur la Santé Humaine*, which throw much light on this all-important subject.

The researches described in this little work of 127 pages were started by the author in 1933, and were prompted by his desire to examine all possible causes of cancer occurring in dwellings which had been occupied for fairly long periods. The book is illustrated by numerous graphs and plates.

M. Voillaume, whose name is familiar to all students of *radiesthésie*, had indicated several houses the occupants of which had died of cancer apparently caused or aggravated by telluric emission from the soil. M. Cody determined to ascertain whether these radiations were discernible with ordinary physical apparatus.

For this purpose he made use of an Elster and Geitel electrometer of the Dauzère type. It consists essentially of a box containing two gold or silver leaves, mounted on a tripod, the leaves fastened to a support completely insulated from the ground. The support is connected to a cylinder between the legs of the tripod, and it is by the presence of ionised air in the cylinder that the leaves of the electroscope are discharged.

The intensity of ionisation is shown by the angle through which the leaves " collapse " in a certain time : the quicker they fall the greater the ionisation. If the leaves have been first charged positively, they collapse under negative ionisation, and *vice versa*. In the cellar of a house, free of radiation, the collapse of the leaves may take as long as 3,600 seconds, or even longer.

Using this comparatively simple apparatus, M. Cody discovered in a number of experiments that, in certain very definite spots in houses occupied by cancerous subjects, small areas were to be found where there was intense ionisation of the air caused

apparently by some emanation from the soil, capable of penetrating all the stories of a building.

In his preliminary experiments certain defects in the apparatus were discovered, the leaves being liable to collapse in abrupt jerks through air currents caused by sudden movements or by the opening and shutting of the doors of the room in which the electrometer was set up. To remedy this, he enclosed the cylinder in a vertical pipe (*chambre d'ionisation*) closed at the top, the open end resting on the ground. A number of readings taken during weak, medium and strong conditions of ionisation when plotted on a graph produced three regular curves, which indicated the efficiency of the improvement.

However, on the advice of M. Deslandres, Member of the Institute, who had criticised the "ionisation chamber," he consulted M. Le Prince-Ringuet, head of the Duc de Broglie's laboratory, who recommended certain measures designed to prevent the chance effects of humidity. The cylinder was replaced by a rod enclosed in the pipe, the top end of the pipe being provided with a cover with an amber plug in the centre through which the rod passed. The bottom end of the pipe, which rested on the ground, was closed by a disc of aluminium, the joint at the rim being provided with two little reservoirs containing pure metallic soda. The rod (*aiguille de déperdition*) was connected to the support of the gold leaves by an insulated copper wire. To ensure the electrical isolation of the apparatus, the ionisation chamber was connected by a wire to the box of the electrometer and also to earth through a gas or water main.

With two such instruments M. Cody was able to compare the ionisation at two spots simultaneously.

Early in his experiments it occurred to M. Cody that the telluric emission might be due to radioactivity. He tried the effect of a lead sheet under the electrometer and noted that the duration of the collapse of the leaves was increased from seven seconds to about 49 seconds.

As an example of the experiments carried out by him during 1934, 1935 and 1936, M. Cody describes his researches in the house of a M. Tuffier, whose wife had died of cancer. One electrometer was placed in the cellar directly below the position of the cancer growth when Mme. Tuffier was lying in bed (*i.e.*, on the "cancer vertical"), and the other electrometer 2.20 metres away. Ten readings on each instrument were taken over a period of about 14 hours within a few minutes of each other, and it was observed that the average duration of collapse for the instrument on the cancer vertical was 53.7 seconds, whilst that of the other instrument was 581.3 seconds. It was, moreover, found that the area of the radiation was not as much as 50 cm. in diameter.

The two instruments were then arranged so that the ionisation

chambers were only 50 cm. apart, one being on the cancer vertical. Readings taken daily *during twelve months* at 8, 10, 12, 14 and 18 hours showed exactly the same difference of intensity as that already quoted. This observation was of great importance, as it showed conclusively that the radiation rose vertically and that near the ground there is no lateral diffusion.

Experiments carried out in upper stories of houses, though attended with practical difficulties, revealed a similar localisation of the radiation, but, as would be expected, a reduction in intensity. For instance, in the case of a certain house the duration of collapse at the cancer vertical was in the cellar three seconds and in the attic 17 seconds, whilst in the attic at a distance of 60 cm. it was 93 seconds. After laying a sheet of lead on the cancer vertical the duration of collapse in the attic was, on the cancer vertical 230 seconds, and at a spot 60 cm. away 354 seconds.

Apart from experiments with the electrometer, M. Cody, found that a radiographic film was affected by the radiation. He marked out on the floor of the first storey of a house the outline of the area of radiation and placed a film half in and half out of the area. When it was developed, no sharp line was discernible, but a width of 5 or 6 cm. was not so dark as the remainder. A film placed 50 cm. beyond the boundary of the area was, however, not obscured at all by the radiation.

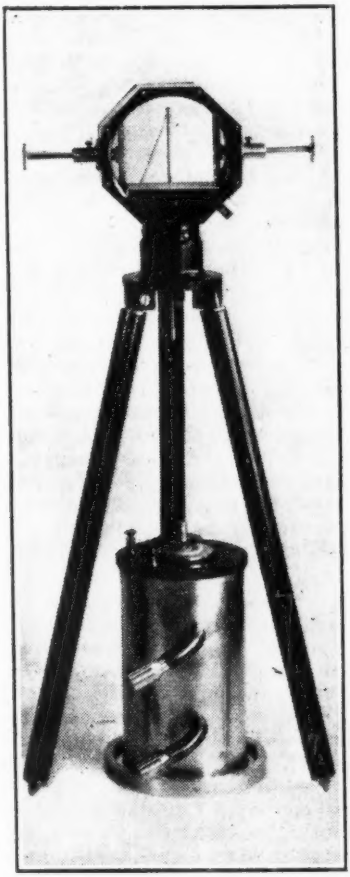
Finally, when a lead sheet was placed in any storey of a house immediately above the area of radiation as found in the cellar and examined after a month or so, a yellowish-gold and sometimes a peacock-blue tint was observable, the area of discolouration corresponding in shape to the area of the radiation, the rest of the sheet retaining its usual grayish tint.

It may be said that the dangerous zone resembles the frustum of a cone of small angle and irregular section with its small end resting on the ground, the average diameter varying from 50 cm. to 2 m.

M. Cody discovered that there was a regular daily variation in the emission of the telluric radiation under similar atmospheric conditions, and also a seasonal variation, due to the fact that, generally speaking, the intensity increases with the temperature. By means of careful experiments taken over a period of four years he found that the intensity is feeble in winter, particularly just before the spring, and increases slowly to a maximum in the autumn.

A very high wind has an extraordinary effect on the radiation. During a series of readings M. Cody noted that the times of collapse taken on two instruments in the cellar of a house, one on the cancer vertical and the other two metres away, fell from 250 and 485 seconds respectively at 13hrs. 27min. to two seconds and 444 seconds at 17hrs. 35min., and to 0 seconds and 950

seconds at 18hrs. He then removed the ionisation chamber from the electrometer on the cancer vertical and on charging it the leaves *remained separated*. He next put a lead sheet under the ionisation chamber and obtained a reading of five seconds. At 18.36 he removed the lead sheet and found again that the electrometer discharged instantaneously.



Electrometer with Ionisation Chamber.

He then took one of the instruments to the ground floor and placed it off the area of radiation and obtained readings over a period of about three hours, increasing from 54 to 188 seconds, whereas a reading taken during the same period on the instrument in the cellar two metres from the cancer vertical gave 807 seconds.

These readings are particularly interesting, as they show that the ionisation is very intense locally, diminishing rapidly with distance. It is also clear that atmospheric conditions play a considerable part in the intensity of the radiations.

The effect of the ionisation chamber is shown by some experiments in which two instruments, one with and one without, were set up on a cancer vertical. On November 16th, 1935, readings taken on both instruments simultaneously were identical, varying from 525 to 648 seconds. There was a storm during the night, and on the following day, November 17th, the readings varied from 72 to 95 seconds, being rather higher on the instrument with the ionisation chamber. Rain began to fall heavily, and as it increased the readings fell off, revealing a progressive diminution in the intensity of the radiation during the four days the rain lasted. The difference in the readings was never very great, showing that the effect of the ionisation chamber is inconsiderable.

The author discusses the effect of metallic screens. He states that the addition of a bottom to the ionisation chamber had considerably modified the results, as it retarded the rate of ionisation of the air inside it. Experiments carried out in November, 1935, appeared to show that the aluminium bottom, after being exposed to the radiation, is capable of ionising the air inside the chamber for some time, for it was found that during readings carried out over a period of four days the duration of collapse of the leaves continued to fall off gradually, although a lead sheet was inserted under the apparatus during the third day.

The same thing was observed when a lead sheet 2mm. thick was allowed to remain under the bed of a cancerous patient for about four months. The sheet was turned over and the ionisation chamber was placed over it at the cancer vertical, a point easily identifiable owing to the discoloration of the sheet, whilst a second ionisation chamber was placed on the sheet at a spot where it was not discoloured. A series of readings carried out over four days on the two instruments revealed an astonishing difference; those on the instrument on the discoloured lead varied on the first day from 58 to 85 seconds, whilst those on the other instrument were constant at 3,600 seconds. The difference fell off to one of 150 seconds only at the last reading, namely, 450 on the instrument at the cancer vertical and *600* on the other. The drop from 3,600 on the first day to 600 on the fourth day appears to show that the originally inactive part of the lead sheet had acquired a certain ionising power.

The sheet of lead was then turned back again, and readings taken on two instruments arranged as before revealed a considerable difference on the two instruments, those over the discoloured lead increasing from 220 to 387 seconds and those on the other instrument increasing from 1,147 to 1,237 seconds.

Thinking that the radiations might be due to a radioactive gas, M. Cody, after a number of experiments, found that acti-carbon, after exposure to the telluric emission, was capable of ionising the air in the electroscope. The receptacles containing acti-carbon were named "Cody capsules" by Professor Boutaric.

In endeavouring to identify the nature of the telluric emission, M. Cody ruled out β particles and γ rays as they can both penetrate lead; α particles, on the other hand, possess feeble power of penetration. They can be temporarily arrested by a sheet of paper and by thin aluminium, but after prolonged bombardment can penetrate a screen at a rate varying inversely as its density, and end by appearing on the other side.

Bombardment of α particles explains the phenomena already described, viz.:—

(1) Ionisation of the air.
(2) Immediate arrest of this ionisation by a lead sheet.
(3) Delay in the ionisation of the air inside the ionisation chamber.
(4) Activation of the under side of a sheet exposed to the telluric emission.
(5) Impression of radiographic films.

But it does not explain how the upper storey of a house can be affected by α particles which would have to traverse several ceilings and floors. As they cannot come directly from the soil, they must originate on the spot, that is, at the surface of interposed screens or in the lower layers of air—the first natural screen which the radiation encounters.

Any object placed near a radio-element or its emanation acquires induced radioactivity. Radon, the emanation of radium, emits only α particles. The state of activation of a body can be measured by an electroscope, and the rate of activation and discharge can be plotted on a graph by taking a series of readings on the electroscope. M. Cody found that the curve he obtained from specimens of activated acti-carbon was nearly a straight line, which is the characteristic curve of pure radon. His observations were confirmed by M. Akerman, *docteur és-sciences*, of the College of France, to whom he had sent specimens of the activated acti-carbon. He also sent a report of his proceedings to Professor Boutaric, of the Faculty of Sciences at Dijon, who wrote: "I had always thought that the radioactivity of the bodies you have studied must be due mainly to radon. Your recent experiments seem to establish this in a very simple way. . . ."

Similar experiments were undertaken in a large number of houses occupied by people suffering from cancer or other serious complaints. In all these houses absolutely analogous results were obtained with the acti-carbon.

The discovery of the presence of radon in the immediate neighbourhood of the surface of the soil does not exhaust the question. Radon is not able to traverse floors and ceilings vertically without lateral diffusion, and the absence of lateral diffusion is characteristic of the emission, so there must be an unknown element to be discovered.

A suitable apparatus, including a vessel in direct contact with the ground in which any gas arising therefrom could be collected and pumped into a chamber by a single stroke, was arranged over a cancer vertical. The chamber filled with gas was taken to M. Cody's house, and a series of readings was taken on an electroscope over a period of six days. A curve of the rate of discharge was plotted, which showed three maxima at observations taken about 12 and 14 hours, but in no way corresponding to temperature changes, pointing to a peculiar radio-active gas, the activity of which increased during six days.

The appearance of radon on substances placed over the telluric emission and its complete absence in the atmosphere at the same spot led M. Cody to suppose that the mysterious gas must be a radio-element capable of being stopped, partially at least, by solid bodies and of immediately giving birth to radon. He thinks this may be the missing element eka-caesium* of atomic number 87, intermediate between radium with atomic number 88 and radon, 86.

To satisfy himself that radon did not originate in the soil, M. Cody had a hole dug 12 metres deep at a spot in the garden of a friend where strong ionisation was discernible. An examination of specimens revealed the presence of radon and not of radium, showing that the soil itself contained no radio-active substance but that in this case at any rate the radioactivity must be due to radon contained in the subsoil water.

In the second part of the book M. Cody discusses the influence of the telluric emission on human health. He refers the reader to Mme. Pierre Curie's book *Radioactivity*, in which she states that the action of α rays is limited to the immediate neighbourhood of the substances which give rise to it, that the introduction of radio elements in animal organisms in sufficient quantities produces lesions which may be strong enough to cause death, and that if these substances are of long life and are not got rid of, the cumulative effect of the radiation may cause lesions

* In *Webster's New International Dictionary* this gas is referred to as Virginium, "An element reported in 1930-32 as occurring in minute quantities in pollucite, sea water and other materials."

after several years which get worse progressively, and that the emanation most to be dreaded is that from radium, namely, radon.

M. Cody examined eighteen so-called "cancer houses" at Le Havre, and in each case found a zone of telluric emission at the vertical through the spot where the subject usually slept. In most cases protective measures were taken by placing lead sheets in the basement on the cancer vertical, in some cases on the ground floor and in a few cases on the floor where the patient slept.

He studied the rate of general mortality for all diseases in six towns over a period of fifteen years, 1923-1937, and, taking the monthly average, found that the curve plotted on a graph corresponded closely to that for the intensity of radiation referred to above, following it by about $5\frac{1}{2}$ months, which seems to be the general average period of incubation for all diseases.

M. Cody had read in certain books that people worthy of profound respect had disputed the existence of "cancer houses" and had asserted that the occurrence of cancer in houses followed a law rather like that of births. Desiring to verify this, he ascertained the average monthly numbers of births, as he had done for deaths, in the same towns and over the same period of fifteen years. Having plotted the curve on a graph he found that it bore no resemblance whatever to that for deaths, the maximum occurring in April/May, shortly after the minimum for radiation.

Phenomena associated with the telluric emission are a distinctive odour, especially observable in cellars, and difficulty in breathing. The presence of ozone has also been detected by means of ozonometric paper. Discolouration of the floor over a zone of radiation has also been noted, and physical pains resembling pricking with needles and burning have been experienced by people who have handled lead sheets used as screens.

M. Cody quotes many cases of physical ailments apparently produced by local telluric radiation which have been ameliorated by movement of the subject's bed from the zone of radiation. He gives details of some of the 461 observations he has collected in the use of sheet lead as screens. His general impression on this head is as follows:

The normal action of the lead sheet is quickly observable in the first week of its application. As a rule, the first effect is the appearance of painful sensations or a temporary increase of existing pains. After several weeks an improvement can be noticed. If the lead is renewed often enough, some cases are healed and in others the progress of the disease appears to slow down considerably. If the sheet lead is not renewed, after several months the malady takes a sudden turn for the worse.

This book, which should be read by all who are interested in the cause and treatment of cancer, can be obtained from M. Pierre Cody, 141 Boulevard Francois Ier, Le Havre, at the price of 35 francs.

[Since the above was written, M. Cody has been elected a member of the *Société Française de Physique et du Radium.*—Editor].

A HOMŒOPATHIC TONIC FOR PLANTS AND TREES

[*This letter was originally published in the Homœopathic paper "Heal Thyself."*]

Dear Sir,—You lately issued an invitation to subscribers to give experiences of Homœopathic treatment on plants. I hope you may find the following of some interest.

In my garden is a young walnut tree of which we are proud. This year the leaves showed curling and blisters. I enquired of an old country gardener if there was any simple cure for this state. His information, so typical of those who deal first hand with nature, was simple and precise.

"Plants ain't like humans, medicines can't be poured in, but they draws their medicines through leaves and roots. You look and find Mare's Tail. It grows wild in hedges and ditches most everywhere. Pluck it and dry it, and store it with the jams in a dry cupboard. One handful is right to each quart of cold water and boil it up once. Then it should bubble gently for fifteen minutes. Set it to cool, and there be your tonic. Spray it over the leaves, and under, and water the roots, too. You'll see the plant will pick up."

I was interested, Mr. Editor, because of the plants, but also because I am a "Dowser," the old English word for the person sensitive to radiations, water sensitivity or divining being the best-known form. The French word is more explanatory—"Radiesthesist." I use Radiesthesie for diagnosis and the selection of diet and medication. Relating to the gardener's advice on Mare's Tail, I was able to test by Radiesthesie methods if the old man was right, and also to find what was the main tonic constituent of Mare's Tail. I found in it Silica approximating to 12x trituration as a main ingredient.

I collected my Mare's Tail, made the infusion and thoroughly sprayed the leaves and soaked the ground round the walnut tree. It certainly "worked" and the leaves grew into health. The gardener had, however, said, "a general tonic for all sickly plants," and I wondered if he was right.

I next collected some chrysanthemum leaves which were patterned with a brown tracery. I am told it is a familiar chrysanthemum disease. Testing by my method, I found no reaction to Mare's Tail, but on trying various strengths of Silica, I obtained good reaction to Silica 100x. This was more expensive medication for plants, but most interesting as an experiment. My husband is the gardener, and, therefore, between us the experiment was achieved. Fifteen tablets of Silica 100x to each quart of water was sprayed over and under the leaves, and some round the roots. Within fifteen days the evidence of improvement was apparent. No further brown tracery appeared, new growth accelerated. The plants are now tall and upstanding, with those springy full leaves that denote health, and they are my husband's pride. Another year we shall spray the young plants to prevent the disease appearing.

It is not surprising that Silica should be the general tonic for plant life. For each tiny particle of it is triangular in shape, like a minute arrow. It collects and deflects the vital rays of the sun into the leaves and stems, possibly cleansing the clogged circulation of the plant, bringing a quick return to normality.

I have had great success with recommending the Mare's Tail infusion. One great advantage is that it is simple and cheap —two recommendations to popularity.

Some Italian friends asked me if I thought it would benefit their vines and peach trees, for in Italy blight of some sort was working general destruction. I later had an enthusiastic letter saying that within three weeks improvement was evident, and they were now searching the countryside for Mare's Tail.

Another friend who had recently started a plantation on their estate, at my suggestion watered and sprayed with the infusion any of the young trees that looked unhealthy—and with excellent results.

Very similar to Mare's Tail (*Equisetum arvense*) is Horse Tail (*Equisetum hyemale*) or Scouring Rush or Shave Grass. I found some people had collected the latter, mistaking it for the Mare's Tail recommended. Either will work in some cases. But Mare's Tail alone is indicated sometimes, and here it is that the advantage of Radiesthesic comparative methods is apparent. A leaf or stem taken from the plant will register how far it has moved from normality, and the tonic necessary for it. A pinch of earth with the leaves and stem will also register soil deficiencies.

(Mrs.) G. BARRACLOUGH.

EXPERIMENTS WITH SOUND

By S. MAUDE LAVERTON

A rod in the hands of a dowser is a never-failing source of interest, with wide scope for experiment.

Unfortunately, time, more and more time, is required to bring sober fact out of experimental fantasy, and so few of us have enough time at our disposal. Three other necessities are patience, imagination and a sternly critical mind, for without imagination few experiments would be made and without the bridle of self-criticism it may easily run away with us! The following are some experiments, insufficiently tested for lack of time, but which someone else may succeed in working out to a definite and interesting conclusion.

I was testing a water sample for the nature of its pollution when the gong sounded for dinner. This suggested the idea of trying a rod on sound waves, and, later, I asked a friend to beat the gong steadily, at longish intervals, just keeping the vibrations from dying away entirely, while I held the rod pointing towards it, but at a distance of a foot or more away from the gong. After a few strokes my rod appeared to stiffen at the sound, and presently it was rising to it, and falling as it died away. I tried from the further side of the room, the hall and the garden, but the movement had the same definite strength even when the sound was faint to me.

Then she rang a bell, tapped a glass bowl with a metal paper knife and made sundry other ringing sounds, striking the gong irregularly among them (each sound being a single beat allowed to die away), and the only thing which evoked any response was the gong to which the rod had been tuned in at the beginning.

The other sounds were each in turn tested in the same way: some appeared to be picked up more quickly than others, but in every case only the one to which the rod had been specially applied caused it to move. After an interval of many months, and not having made notes, I am uncertain whether the rod had to be pointed towards the sound, after the initial tuning-in, but think that this was so.

Another attempt upon the sound waves was made by tuning in to a certain note on the piano, but here again a helper was needed, and the possibilities of thought transference and sub-conscious movement, always to hand for the use of critics, were apt to make one self-conscious, and hinder free consideration. Nevertheless, with a suitable assistant and long practice, much interesting work could be done, less obvious and more intricate than the gong-sounding tests, such as taking notes in octaves, chords, &c., and carefully and critically marking results.

The desirability of working without a helper, if possible, led to a later experiment with the ticking of a clock. The same

procedure was followed to allow the rod to pick up the sound it had to follow, the rod again being a small block of Balsa wood on whalebone arms. From different rooms, where the ticking was quite inaudible, it rose whenever pointed towards the position of the particular clock, while the ticking of others caused no movement. Blindfolded, with several turns to completely lose my bearings before beginning to work, a slow turning round would give the right direction every time, after a short backward and forward movement of the rod, to find the exact point of strongest action. This test was interrupted, and when repeated a few hours later from the room in which the rod had last been used, there was no response. Thinking that the tuning-in had faded out, I went back to begin again and found that the clock had stopped. Several days later, the same rod, kept carefully unhandled, gave the same reaction without re-tuning, but this was not continued sufficiently to know for what length of time it would remain sensitive.

Rubbing the block of wood which forms the end of the rod with the hands will free it from the influence of its last test and leave it free to be used for a different trial.

It would be interesting to apply the clock test to several of exactly the same make and type, in which case a rod tuned in to one would probably act for all.

I have used the expression " tuned in " because it is the nearest description I can find for the purpose of explaining this strange performance, and the words " the rod moved " because, to my mind, when a dowser, his object and the rod make a connection, the rod is as definitely magnetized and active as the needle or indicator in a scientific apparatus. I know many people of knowledge and experience do not hold this view, but, though open to conviction, I have not yet found sufficient reason against the theory to make me change my mind. However, in dowsing it is certainly very true that " the more we learn, the more we realize how little we know."

OBITUARY

With reference to Mr. Paul Wenz, who died on August 23rd last, one of our members writes : " He was 67 years of age. He was a very fine type of Frenchman, and a very big man. A great traveller, he told me that he had been everywhere, from Timbuctoo to the top of Siberia, practically all over South America, &c. He took up a property on the Lachlan, about 30 miles from this spot (Cowra), about 40 years ago, which was his headquarters. He was the author of several books, both in English and French. He showed me a story, which was published in the Christmas number of *L'Illustration* a year or so ago, of which he was very proud. He was a very fine character with great charm of manner. I have spent a number of interesting days with him. (When in Europe in 1938, he obtained a mumetal rod which he took back to Australia for the writer's use). Some time ago he sent a plan of his property to M. de la Bastide, in France, and asked him to mark the fox earths on it ; this was done very successfully."

Captain F. L. M. Boothby, who died on January 3rd, had had a distinguished career in the Navy. He qualified as a torpedo specialist, and was torpedo lieutenant in H.M.S. Hermione. In 1910-11 he was a member of the experimental crew of airship No. 1, and in 1913 commanded naval airship No. 4. In 1914 he became an aeroplane pilot as well as a balloon pilot. He spent a year on a special mission in Somaliland from September, 1914, to September, 1915, after which he organised the armoured car section of the R.N.A.S., and was concerned in the introduction of tanks. He later commanded the Barrow airship station, and in 1916 went to Howden. He joined the experimental airship station at Pulham St. Mary in 1918, where he served till 1919. He transferred to the R.A.F. when it came into being, but returned to the Royal Navy in December, 1919, retiring the following year. For his services in the war he was made a C.B.E.

He took a keen interest in dowsing, and contributed several articles to the *Journal*. Since his retirement he spent some months in the Argentine, where he investigated the occurrence of minerals and oil by dowsing, and their identification by serial numbers and colours. He took a particular interest in archæological remains, from the point of view of their apparent location above underground water courses, and in the tracing of ancient roadways. Some of his recent experiments were in connection with the use of dowsing for locating aeroplanes.

Reginald Allender Smith, who died on January 18th, had been on the staff of the British Museum for forty years, from

1898 till 1938. During the last eleven years he was Keeper of British and Medieval Antiquities, becoming the leading authority on prehistoric antiquities and on the Roman and Anglo-Saxon periods of archæology. He was the author of many papers on the Stone, Bronze and Iron Ages, and wrote most of the Anglo-Saxon chapters in the Victoria County Histories. During his service at the Museum he not only wrote the five guides describing the Stone Age, Bronze Age, Iron Age, Romano-British and Anglo-Saxon Antiquities, works which were much appreciated by the general public, but he was responsible for the whole arrangement and labelling of the galleries which contain the vast collections concerned. At the same time, he was tireless in the production of the brilliant detailed studies which were published over a long period of years in the proceedings of the Society of Antiquaries and other learned Societies, whilst he was ever ready to put his wide knowledge at the disposal of local museums and county archæological societies. It is no exaggeration to say that for twenty-five years he represented British archæology to a degree that no other individual of that period ever approached. Indeed, his name and writings were as familiar in Continental archæological literature as they were in this country.

During the last few years he took a keen interest in dowsing, both in its direct and intuitive aspects, thereby revealing a breadth of mind which is often so regrettably absent in men who have devoted a lifetime to a single branch of study. In act, it may be said that, latterly, dowsing constituted the all-absorbing interest of his life. Members will remember a lecture he gave to the Society on February 15th last year on archæological dowsing, in which he related his discoveries regarding the occurrence of subterranean water beneath barrows and at the centre of certain earthworks and stone circles. He also held that a menhir, that is a *solitary* "standing stone" not originally a part of a circle or avenue, invariably marks the junction of underground streams.

NOTES AND NEWS

Mr. William Hall (B.S.D.) writes :—

Please find enclosed copy of letter received from the Melrose Gas Co. Ltd.

Dear Mr. Hall.

Now that we have located and repaired the fault in the gas supply of St. Boswells, I feel it is only right that you should know we located a block of solid ice at the point indicated by you with your divining rod.

I am very grateful to you for the assistance you kindly offered, and I hope I may have an opportunity to reciprocate. With kind regards.

Yours faithfully,

R. J. GAVIN,

Engineer Manager.

* * * * *

Mr. J. J. Streeter (B.S.D.) writes :—While sitting in the barber's chair in a Sussex village recently I overheard a conversation between the barber and a waiting customer. Although it was not perhaps my business, I was interested enough to interrupt their talk. They were discussing, apparently, the case of a woman who had been bedridden for some time with rheumatism. When the hairdresser asked the man how long she had been ill and his answer was so many years, this is where I had to interrupt, and said : " You must excuse me, but has she been in the same room all this time ? " " Yes," the man answered. " Is it possible for her to be moved to another room ? " said I. He answered that it could be arranged, he thought ; why did I suggest that ? So I then explained to him the theory of earth rays and their effects on certain people. " Well," he said, " there may be a lot in what you say, because under her room is the scullery and in the scullery is the old well." After a reasonable time has passed, I hope to make enquiries to learn whether any improvement has been noted, that is, if the lady was moved into another room, as my experience is that it is very difficult to get people to believe these things unless they are dowsers themselves.

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At the monthly meeting of the Ellesmere R.D.C., as reported in the *Shrewsbury Chronicle* of November 17th, it was agreed that the services of a water diviner should be secured to find a water supply for the new Council houses. An advertisement for a water diviner appeared in the *Contractors' Record* of November 22nd.

The *Gold Mining Record* of December, 1939, contained an article by Miss E. M. Penrose (B.S.D.) on divining for water and minerals.

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In the *Western Morning News* of December 15th it was recorded that at a meeting of the South Molton R.D.C. on the previous day, Mr. W. H. Quick stated that the borehole for the Rackenford water supply had been located by a diviner in the wrong place.

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The *Daily Sketch* of December 15th contained a note and a comic picture describing how Jesse Purdy, a well-known Lincolnshire water diviner, when on sentry-go, found a gold ring which a motorist was searching for near his post.

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In the *Ripon Gazette and Observer* of December 21st there is an account of an address given by Mr. John Hymas (B.S.D.), of the well-known firm of well-sinkers and water-engineers of Burton Leonard, to the Ripon Rotarians on December 10th. He dealt with methods of locating underground water, including dowsing and inquiry from the Geological Survey, methods of boring and methods of raising water to the surface.

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The *Daily Express* of December 28th contained a picture of the now famous poetess, Miss Minnie Haskins, who appears to be holding a wooden divining rod.

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The *Daily Sketch* and the *Mirror* of December 19th and the *People* of December 31st contained notes and pictures of Vera Littlewood, of Manchester, aged thirteen, who, when an evacuee at Hawkshaw, visited Mr. Lincoln Tootill (B.S.D.) and discovered she was a natural water diviner.

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The *Daily Telegraph and Morning Post* of January 26th and the *News Chronicle* of the same date reported that a water diviner took part in the search for Elsie Turner, of Warkworth, Northumberland, and led the searchers to the River Coquet, where the girl's body was found.

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The *Observer* of February 11th contained an account of an archæological discovery at Kensington Barracks made by A./C.S.M. L. J. Latham, R.A.S.C., a Fellow of the Royal Numismatic Society and a practised archæologist, with the divining rod. By using a red brick "sample" he was able to trace the course of a Tudor culvert and also the foundations of a rectangular building. At a depth of 23ft. walls 4ft. thick were found in the position indicated. There was also an account in the *News Chronicle* of February 14th.

REVIEW

NOTIONS PRATIQUES DE RADIESTHÉSIE POUR LES MISSIONNAIRES.

By R. P. Jean-Louis Bourdoux (Maison de la Radiesthésie, 20 francs).

The author of this book (2nd edition) of 300 pages, a priest of the Roman Catholic Church, spent sixteen years as a missionary at Matto Grosso, a remote spot in Brazil (15° S. lat., 60° W. long.), devoting himself to the moral and physical good of his scattered flock in the selfless manner for which the missionary-fathers of his Church are famous.

The book is divided into four parts. The first, entitled "Answers to Principal Objections," contains nothing of unusual interest but the author mentions certain other phenomena which, like *Radiesthésie*, have not been explained by Science, such as diagnosis by iridology. He also mentions the difficulties caused by *rémanence* and the necessity for a "sympathetic atmosphere" in carrying out tests of a type well known to dowsers.

In the second part, entitled "Attempt at an Explanation," he gives some remarkable instances of the effect of earth rays and of their successful neutralisation and also some wonderful examples of diagnosis and treatment from photos and physical specimens such as a lock of hair.

In Part III, by far the most important, the author describes his working technique. In pleasing contrast to so many other authors of books on this subject, he does not insist on any particular type of rod or pendulum, and finds that all lengths of string are equally suitable for his purpose. He finds the pendulum more sensitive than the rod, except for locating water. Oscillation he regards as merely a preliminary to gyration save in the case of water. Clockwise gyration is favourable and anti-clockwise unfavourable, in the sense that the latter movement over a human subject would imply illness of some kind, whilst in searching for a remedy a clockwise movement over a drug would imply suitability.

The author prefers the rod when looking for water; he finds depth by the Bishop's rule, or, when using the pendulum, by counting aloud, or by counting pebbles or beats of the foot; quantity by counting; and quality by mental concentration before starting to locate the water, or by questioning when on the stream line.

Regarding dowsing on plans, he relates how he found water on the property of a friend in Belgium, and correctly traced a stream on a property in Chile, and further, how he found water in a garden from a verbal description only.

Next he describes his procedure when examining human subjects for diseases. Before the affected part the rod rises or the pendulum rotates anti-clockwise; the nature of the disease is found by questioning, the latter procedure being applicable also to photographs. To select a remedy he holds the pendulum in the right hand 25 to 30 cm. from the affected part and a specimen remedy in the left hand near the pendulum, and observes the movement, clockwise or counter-clockwise. It is equally effective if the pendulum is held over the patient's hand resting on a table or even over a photograph or piece of linen, manuscript, pertaining to the patient.

Next comes the most interesting part of the book, that which relates to his work of healing in his district in Brazil.

"In a village where no doctor had ever been, I met a woman whose nose and part of the upper lip had been destroyed by ulcers. The wound was healed and the scar was perfect. . . ." In Europe no doctor could have done the like. The author made discreet inquiries from the villagers, who said that the woman had been in a frightful state, but had now recovered by using a forest remedy—and that once only, some ten years before. He found other cases, such as ulcered tongues, snake bite, which had been cured by healing plants. Thenceforward, in touring his immense parish over distances of three to four thousand kilometres, he noted down in a pocket book all his discoveries, the characteristics of the plants and where they were found—sometimes with difficulty, as the Indians are jealous of their secrets. He inspired his brother missionaries with similar enthusiasm, and his collection of plants increased up to fifty or so. By gleaning in books as well, both ancient and modern, he finally succeeded in collecting 250 plants possessing genuine curative properties.

All this occurred before he had heard of *radiesthésie*, but having realised its possibilities in the field of medicine, he proceeded to classify each plant according to its medicinal quality by, for example, holding in the left hand a photograph of a tuberculous subject, passing the pendulum over each plant and carefully noting its reactions. Curiously enough, the value of a plant varied for the same disease in different subjects—what suited Peter fairly well was excellent for Paul—showing that each subject required his own special treatment. This being so, he sought to obtain general formulae for various diseases by mixing plants in certain proportions, testing the harmony of the ingredients with the pendulum over actual specimens or, *mirabile dictu*, over the *names* of the plants on a list.

"Thus originated the 'Poconéol formulae,' no doubt unequal in their efficacy but so remarkable in their completeness that they have attracted the attention of radiesthetist doctors."

A portable case was made containing fifty little tubes, for

use not as remedies but as " samples " of the fifty best formulae. It is used thus :

The pendulum is held over the patient's hand ; with the first finger of the left hand each tube is touched in turn, until the pendulum gyrates, showing by the direction, clockwise or the reverse, whether the formula is suitable or otherwise. If several formulae appear favourable they must be tested together, when it may be found that a mixture may be even more favourable or, on the other hand, injurious.

Missionaries have little or no medical training, and they are content to find a remedy without a detailed diagnosis. But often enough the diagnosis with the pendulum is more true than the conventional medical one, for it can find a hidden cause, sometimes at variance with the obvious symptoms.

But it is not enough to find the nature of the remedy ; the dosage is of the greatest importance. It is found by questioning ; the pendulum is held over the patient's hand and questions are asked, such as, " Should this patient take one decigramme, two decigrammes ? " until the pendulum assents. The same method is employed for a dosage of drops.

One day the author was making a purchase in a herbalist's shop in Sao Paulo and noticed an odd-looking bean which the herbalist said was good for rheumatism if carried in the pocket. Doubting, the author put two in his pocket, as for several years he had had a pain in his right hip. To his astonishment, the pain disappeared. Thus arose the idea, apparently new to him, of cure by " external application," and he started to treat his patients by means of baths and of compresses.

The author states that the object of his book is to show missionaries what can be done by the study of plants and the practise of *radiesthésie*. He quotes several letters from people who have visited his Institute at Albi (Tarn), showing how they had profited in their work of healing by the information he had given them. There are two from Rev. Père Laagel, a missionary at Cuima in Angola, and there is a striking letter from Dottore Virgilio Grassi, one of a number of qualified doctors who use *les Produits Poconéols*.

The author quotes many cases of cure or amelioration of disease, some in detail, by the use of his methods. For instance, there is a remarkable case of leprosy in a girl of sixteen, whose condition he improved beyond all hope and expectation, though treatment on official lines had failed ; also a case of cancer on the liver which, at the instance of a doctor, was treated by the author and practically cured. Many other cases of cancer were successfully treated, such as cancer on the spine and in the stomach. He has come to the conclusion that fifty per cent. of cancer cases (declared as such by qualified doctors) can be cured by means of Poconéol products. He discusses syphilis,

which can easily be treated by his method, as amongst his products is a bottle containing an anti-syphilitic formula. He says that many tubercular subjects were originally syphilitic, and gives an example of the case of a young doctor who was unaware that certain slight tubercular symptoms were due to this cause. He was told so by the author, but on following his advice was completely cured. He quotes seven cases in which syphilis was successfully treated.

Diseases of other kinds are mentioned, such as Parkinson's disease, angina pectoris, cirrhosis of the liver, to show how wide is the range of diseases which fall within the missionary's scope and can be successfully treated by him. At the same time, the author admits that *radiesthésie* is not omnipotent and that every sick man cannot infallibly be made whole by its use.

Hereditary tendencies can also be detected by *radiesthésie* and their effects to a certain extent anticipated. As an experiment he examined one day fifty-eight schoolboys, noting the diseases they might contract and the appropriate remedy. His finding, substantiated by a brother operator, showed that 54 required the same remedy.

With some hesitation, the author describes an instrument invented by Dr. Marty, who is mentioned several times in this book. It is a dial, like a protractor, divided into sectors of 2° 5′ and numbered from right to left, zero corresponding to "Death." It is called the "*Haut Viseur Pendulaire*."

It depends on the principles that—

(1) Anything which has been touched by a sick man will serve as a *témoin* (sample) to denote the nature and gravity of the disease as well as the remedy.

(2) An experienced radiesthetist can discover the gravity of the disease and the efficacy of the remedy by the amplitude of the pendulum's gyrations.

Further, for a really experienced operator the *témoin* is valid for the future as well as for the present, so that with a *témoin* received on any day it will be possible to discover the condition of a patient a fortnight or longer hence.

The *Haut Viseur* is used as follows:

(1) Touch the *témoin* or the patient himself with the left hand.

(2) Hold the pendulum over the centre of the dial, giving it a slight vibratory movement. This movement will soon turn to oscillation, the direction of which will become constant on a certain diameter of the dial. Read the number of the sectors through which the diameter passes. This number will correspond to the "vitality" of the patient and, indirectly, the gravity of the disease.

Readings naturally vary with the sensitiveness of the individual

operator, but a wonderful constancy in the relative value of the readings has been observed as between one operator and another.

In the last chapter of Part IV the author discusses the relations between *radiesthésie* and orthodox medicine. For the missionary *radiesthésie* replaces his ignorance of medicine, but his Institute at Albi has already sent several of its members to attend courses of medicine given to future missionaries at the Faculty of Lille. *Radiesthésie* is not the foe of medicine, but its friend, though an embarrassing one. There are some hundred doctors who use it, and others who do so in secret.

The fourth and last part of the book deals with other uses of *radiesthésie*, such as the treatment of animals, the search for lost objects and persons, its use for agriculture, for military purposes, prospection and so on.

This is indeed a remarkable book. How can one account for the undoubted efficacy of the author's methods—and he is only one of very many who practise on his or similar lines?

It is obvious that no theory of waves or radiations can be applied, nor can that versatile and accommodating maid-of-all-work of the psychical investigator, Telepathy, be made responsible.

It can only be that some refined type of Intuition is brought into play, perhaps only evocable in its completeness when linked to a purpose of a high moral kind.

Whatever the cause may be, it is the result that matters, and it is difficult to understand how in the face of such convincing testimony any qualified medical practitioner can affect to ignore the efficacy and importance of medical radiesthésie.

A.H.B.

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SOME BOOKS ON DOWSING AND HUMAN RADIATION

The Physics of the Divining Rod, by J. Cecil Maby and T. Bedford Franklin; Bell, 21/-

The Divining Rod, by Sir William Barrett and Theodore Besterman (out of print).

Dowsing, by Captain W. H. Trinder; British Society of Dowsers (obtainable by Members through the President at 5/4, post free).

Water Divining, by Theodore Besterman; Methuen, 7/6.

Water Diviners and their Methods, by H. Mager (translation): Bell, 16/-

The Modern Dowser, by Le Vicomte Henry de France (translation): 2nd Edition, Bell, 4/6.

The Art of Water Finding, by M. E. Pogson: obtainable from the President, B.S.D., post free, 1/8.

Local Variations in a Penetrating Radiation and their Connection with Water Divining, by H. M. Budgett: obtainable from the President, B.S.D., -/6.

The Human Atmosphere (the Aura), by W. J. Kilner: Kegan Paul.

The Origin and Properties of the Human Aura, by Oscar Bagnall: Kegan Paul.

Les Sourciers et leurs Procédés, by H. Mager.

Traité complet des secrets de la Baguette et du Pendule des Sourciers, by Frère Padey, 65 fr.

Le Sourcier Moderne, by Henry de France, 5th Edition, 10 fr.

Comment j'opère, by Abbé Mermet, 4th and enlarged edition, 25 fr.

La Radiesthésie (explaining Abbé Bouly's method), by M. A. Capron, 15 fr.

Comment devenir Sourcier, by Armand Viré, 18 fr.

Tu Seras Sourcier, by Emile Christophe, 20 fr.

Manuel théorique et pratique de Radiesthésie, by René Lacroix-à-l'Henri: Henri Dangles, 38 rue de Moscou, Paris (8e), 20 fr.

La Radio-Tellurie, by M. Larvaron and Dr. J. Regnault: Maison Deyrolle, 46 rue du Bac, Paris, 18 fr.

Essai sur les Rayonnements de l'Homme et des Etres vivants, by C. Voillaume.

Cours de Radiesthésie, by Henri Lemonnier: Maison de la Radiesthésie, 16 rue Saint-Roch, Paris.

La Vérité sur la Radiesthésie, by Paul Serres: Dunod, Paris.

Le Pendule Magique, by Madame de Mersseman; Maison de la Radiesthésie, Paris, 15 fr.

Electricité Magnétisme Radiesthésie, by Comte de Marsay: Maison de la Radiestnésie, Paris, 12 fr.

Radiesthésie Physique, by Pierre Béasse: 2nd Edition.

Investigación de aguas subterráneas, by Bartolomé Darder Pericás.